

M/023/0023
RECEIVED cc: Wayne

DIV. OF OIL, GAS & MINING

Task: 5776

December 19, 2013

Paul B. Baker, Mining Program Manager State of Utah, Div. of Oil Gas and Mining 1594 West North Temple, Suite 1210 Salt Lake City, Utah 84114

RE: Levan Henry Surety Calculations – 2nd Revision

Dear Mr. Baker,

Per your request, I have revised the surety calculations using 2013 Equipment Watch rates. It only added \$1,000 to the total bond cost.

Sincere

Brent R. Sumsion

Property and Environmental Manager

FORM MR-LMO (Revised March 2011)

FOR DIVISION I	JSE ONLY
File #: M / /	
Date Received:	ALCOHOL STATE
DOGM Lead:	
Permit Fee \$	Ck #

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

1594 West North Temple Suite 1210 Box 145801 Salt Lake City, Utah 84114-5801 Telephone: (801) 538-5291 Fax: (801) 359-3940 RECEIVED
DEC 20 2013

DIV. OF OIL, GAS & MINING

NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

The informational requirements in this form are based on provisions of the Mined Land Reclamation Act, Title 40-8, Utah Code Annotated 1953, General Rules and Rules of Practice and Procedures.

This form applies only to mining operations which disturb or will disturb more than five acres in an incorporated area or ten acres in an unincorporated area at any given time.

"MINING OPERATIONS" means those activities conducted on the surface of the land for the exploration for, development of, or extraction of a mineral deposit, including, but not limited to, surface mining and the surface effects of underground and in situ mining, on-site transportation, concentrating, milling, evaporation, and other primary processing.

"Mining operation" does not include: the extraction of sand, gravel, and rock aggregate; the extraction of oil and gas as defined in Chapter 6, Title 40; the extraction of geothermal steam; smelting or refining operations; off-site operations and transportation; or reconnaissance activities which will not cause significant surface resource disturbance or involve the use of mechanized earth-moving equipment such as bulldozers or backhoes.

Cultural Resources: To fulfill its obligations under Utah Code Annotated 9-8-404, the Division needs cultural resource (archaeology) information. The amount and type of information required will depend on the mine location, the history of previous disturbance, and other factors. Please contact the Division for further information.

PLEASE NOTE:

This form is to be used as a **guideline** in assembling the information necessary to satisfy the Large Mining Operations Notice of Intention requirements. The Permittee / Operator may submit this information on an alternate form, but the same or similar format should be used.

I. Rule R647-4-104 - Operator(s), Surface and Mineral Owners

Provide the name, address and telephone number of the individual or company who will be responsible for the proposed operation. Business entities listed as the Permittee / Operator, must include names and titles of the corporate officers on a separate attachment.

11	Ine Name: Levan Henry
	Operator name: Sunroc Corporation
	Mailing Address: P.O. Box 1955
	City, State, Zip: Orem, Utah
	Phone: 801-802-6900 Fax:
	E-mail Address: <u>bsumsion@clydeinc.com</u>
	Type of Business: Corporation (X) LLC () Sole Proprietorship (dba) () Partnership () General or limited Or:
	Individual ()
	Entity must be registered (and maintain registration) with the State of Utah, Division
	Corporations (DOC) www.commerce.utah.gov.
	Are you currently registered to do business in the State of Utah? (X) Yes () No
	Entity # 87-0550914
	If no, contact www.commerce.utah.gov to renew or apply.
	Local Business License # 932 (if required)
	Issued by: County Juab or City
	Registered <u>Utah</u> Agent (as identified with the Utah Department of Commerce) (Leave blanthe operator is an individual): Name: <u>Rhys Weaver, President</u> Address: <u>P.O. Box 1955</u>
	City, State, Zip: Orem, Utah 84059
	Phone: 801-802-6900 Fax:
	E-mail Address: <u>rweaver@clydeinc.com</u>
P	ermanent Address: Sunroc Corporation
	P.O. Box 1955
	730 N. 1500 W., Orem, Utah 84059
	Phone: 801-802-6900 Fax:
(Contact Person(s) Please provide as many contacts as necessary.
	Name: Brent R. Sumsion Title: Property Manager
	Address: Clyde Companies, Inc., P.O. Box 1955, 730 N. 1500 W.
	City, State, Zip: Orem, Utah 84059
	Phone: 801-802-6900 Fax:

	Em	ergency, Weeker	nd, or Holiday Phone: 801-360-1344
Co			sumison@clydeinc.com ed for: permitting (X) surety (X) Notices (X) (please check all that
5. Lo	cation of	Operation:	
	County	r(ies)	
	SW	_1/4 of <u>NE</u>	1/4, Section: 19 Township: 15 S. Range: 1 E.
	_ DE	_1/4 OINW	1/4, Section: 19 Township: 15 S. Range: 1 E.
		_1/4 of	1/4, Section: Township: Range:
The na should project	include	ne surface and mall private, state	ineral owners for any areas which are to be affected by mining. This list and federal ownership and the owners of lands immediately adjacent to the
6.	Owner	ship of the land	surface (circle all that apply):
other:	Private	(Fee), Public D	Jomain (BLM), National Forest (USFS), State of Utah (SITLA) or
	Name:	USFS	Address: 599 West Price River Drive, Price, Utah 84501
	Name:	Dale Wright	Address: Idaho
	Name:		Address:
	Name:		Address:
7.	Owner Private	(s) of record of the (Fee), Public D	the minerals to be mined (circle all that apply): omain (BLM), National Forest (USFS), State of Utah (SITLA) or
other:			
	Name:	Sunroc Corno	oration Address: P.O. Box 1955, Orem, Utah 84059
	Name:		Address: Address:
	Name:		Address:
	Name:		Address:
8.			File Number(s) and/or USFS Assigned Project Number(s):
	BLM C	laim Numbers:	UMC 370880, UMC 370881, UMC 372037
	Utah St	ate Lease Num	ber(s):
	Name o	f Lessee(s):	
9.		nt land owners:	
	Name:	Dale Wright	Address: Idaho
	Name:		Address:
	Name:		Address:
	Name:		Address:

10.	Have the land, mineral and adjacent land owners been notified in writing? Yes X No No
	If no, why not?
11.	Does the Permittee / Operator have legal right to enter and conduct mining operations on the land covered by this notice? Yes X No
R647-	4-105 - Maps, Drawings & Photographs
105.1	Topographic base map, boundaries, pre-act disturbance
105.2	- Surface facilities map
105.3 -	- Drawings or Cross Sections (slopes, roads, pads, etc,)
105.4	- Photographs
R647-	4-106 - Operation Plan
106.1	- Minerals mined
106.2 -	Type of operations conducted, mining method, processing etc.
106.3 -	Estimated acreages disturbed, reclaimed, annually
106.4 -	Nature of materials mined, waste and estimated tonnages
106.5 -	Existing soil types, location, amount

Page	15	of 1	7
1 450	1	OI I	

106.6 - Plan for protecting & re-depositing soils	106.6	- Plan	for	protecting	&	re-denositing	soils
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106.7 - Existing vegetation - species and amount

106.8 - Depth to groundwater, extent of overburden, geology

106.9 - Location & size of ore, waste, tailings, ponds

R647-4-108 - Hole Plugging Requirements

R647-4-109 - Impact Assessment

109.1 - Impacts to surface & groundwater systems

109.2 - Impacts to threatened & endangered wildlife/habitat

109.3 - Impacts on existing soils resources

109.4 - Slope stability, erosion control, air quality, safety

109.5 - Actions to mitigate any impacts

R647-4-110 - Reclamation Plan

110.1 - Current & post mining land use

D	11	0	17
Page	10	OI.	1/

110.2 - Roads, highwalls, slopes, drainages, pits, etc., reclaimed

110.3 - Description of facilities to be left (post mining use)

110.4 - Description or treatment/disposition of deleterious or acid forming material

110.5 - Revegetation planting program

R647-4-112 - Variance

R647-4-113 - Surety

XI. SIGNATURE REQUIREMENT

I hereby certify that the foregoing is true and correct. (Note: This form <u>must</u> be signed by the owner or officer of the company/corporation who is authorized to bind the company/corporation).

Signature of Permittee / Operator/Applicant:	
Name (typed or print):	
Title/Position (if applicable):	
Date:	

PLEASE NOTE:

Section 40-8-13(2) of the Mined Land Reclamation Act provides for maintenance of confidentiality concerning certain portions of this report. Please check to see that any information desired to be held confidential is so labeled and included on separate sheets or maps.

Only information relating to the <u>location</u>, <u>size or nature of the deposit</u> may be protected as confidential.

Bonding Calculations

Subtotal Demolition and Removal	\$57,426.00	
Subtotal Backfilling and Grading	\$39,439.00	
Subtotal Revegetation	\$26,250.00	
Direct Costs	\$123,115.00	
Indirect Costs		
Mob/Demob	\$12,312.00	10.0%
Contingency	\$6,156.00	5.0%
Engineering Redesign	\$3,078.00	2.5%
Main Office Expense	\$8,372.00	6.8%
Project Mainagement Fee	\$3,078.00	2.5%
Subtotal Indirect Costs	\$32,996.00	26.8%
Total Cost base on 2013 Costs	\$156,111.00	
Number of years		5
Escalation factor		0.013
Escalation	\$3,679.00	
Reclamation Cost Escalated	£450.700.00	
recolamation cost Escalated	\$159,790.00	
Bond Amount (rounded to nearest \$1,000) 2018 Dollars on -Acres Bonded Area	\$160,000.00	
Posted Bond		
Difference Between Cost Estimate and Bond Percent Difference	\$0.00	

Demolition Costs

Description ef.	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume CF	Weight	Density	Time	Number Loads	Unit	Swell Factor	Quantity	Unit	Cost
CRUSHER																			
Conveyors (15)	Steel Bldg. Large	02 41 16.13 0020	0.31	/CF	70.00	4.00	4.00			1 1289				1	5 ft		16,800.00	cf	5,20
Jaw Crusher/feeder	Steel Bldg. Large	02 41 16.13 0020	0.31	/CF	40.00	12.00	12.00						1		1 ft		5,760.00	cf	1,78
3-Deck 7x20 Screen	Steel Bldg, Large	02 41 16.13 0020	0.31	/CF	40.00	10.00	12.00								1 ft		4,800.00	cf	1,48
2- Deck 5x16 Screen	Steel Bldg. Large	02 41 16.13 0020	0.31	/CF	30.00	10.00	12.00								1 ft		3,600.00	cf	1,11
Cone Crusher w/ Screen	Steel Bldg, Large	02 41 16.13 0020			40.00										1 ft		5,760,00	cf	1,78
Control House/Tower	Steel Bldg. Large	02 41 16.13 0020	0.31		45.00										1 ft		5,400.00	cf	1,67
Generator - 500 KW	Steel Bldg, Large	02 41 16.13 0020	0.31		40.00						The second				1 ft		3,200.00		99
Conex Parts Storage Container	Steel Bldg. Large	02 41 16.13 0020	0.31		40.00									_	1 ft		2,560.00	-	79
Misc. Pipe, legs, and Splitter	Steel Bldg. Large	02 41 16.13 0020	0.31		40.00										1 ft		2,560.00		79
55 Miles to Western Metals, SLC - 20 miles covi		02 41 10,10 0020	0.31	74	40.00	0.00	3.00								1 10		2,000.00	OI .	10
Total Volume of Materials																	50,440.00	cf	
Volume of Debris																0.3	15,132.00		-
Weight of Debris												48			lb/cf	0.0		tons	
No. of Trip 16 Tons							_					40	3		ID/CI	-		Trip	
Add 1 Hr per round trip									_			_			-	-	231	Trip	-
	T 10 10T 0 1 1			-								_					F1.10	-	
Hual to Recycling Center 1hr rnd trip	Truck Dump 16 Ton Payload															-	51.10		27,23
Truck Driver Subtotal	Truck driver, Heavy	Trhv	\$ 49.15	HR													230.76	Hr	11,34
		STATE DESCRIPTION OF THE PERSON OF THE PERSO	NAME OF TAXABLE PARTY.				O PRINCIPAL OF					N R S S S S S S S S S S S S S S S S S S						1000000	54,21
Fuel Tank																			
Removal of Storage Tanks	9000 gal to 12000 gal tank	02 65 10 30 0130	1,500												1 Ea			1 Ea	1,500
Remove Sludge, water remaining products	9000 gal to 12000 gal tank	02 65 10 30 0320	435	20.00.0											1 Ea			Ea	43
haul tank 100 miles round trip	9000 gal to 12000 gal tank	02 65 10 30 1029	1,276	Ea.									2		1 Ea		1	Ea	1,27
Subtotal	As the second second second second												ALC: NAME OF TAXABLE PARTY.					No.	3,21
Demolition Cost Structures Disposed on Site															00000000		-		3,21
Truck Scales	- 3-7-4																		
Demolition Cost			5 S S S S																
Concrete's Vol. Demolished																			
Loading Cost																			
Transportation Cost	STATE OF THE STATE														-				
Disposal Costs Subtotal																			
Subtotal			Series Charles College	AND PROPERTY.		Observation (State		A CONTRACTOR	Street, or other	THE RESERVE			a la constant			-		No.	
Concrete Demolition														-	-				
Demolition Cost																			
Concrete's Vol. Demolished		100																	
Loading Cost		David Color									100000					1			
Transportation Cost									1										
Disposal Costs																			
Subtotal		more particular to the				N. Charles	William School	Elizabeth prints	200	A HEREN	E PORTUGE	STATE OF STREET			1500000	6801689	ALC: N	No.	
700																			
Total		STATE OF STREET	Manual Street	(2003)				No the Line	PER PARAMETER				100000000000000000000000000000000000000				Same a series		57,42

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units		Subtotal Cost
SUMMARY EARTHWORK															N. P.	
Spread Stockpiles															\$	12,042
Replace Topsoil - Quarry Floor							2000								\$	15,160
Replace Topsoil - Benches				Walley Town											\$	12,236
			Sand Control													,
			200													
					E TABLE		1777									
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				Com Pile											200	
		DC BURE									-	ELLE E				
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Total			**************************************												\$	39,439

	Equipment Cost	Hourly Operating Costs		Operator's Hourly Wage Rate	Hourly	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	33% of Inventory Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units		Cost
							7									
SPREAD REMAINING AGGREGATE STOCKPILES		Lie Ling Cal	Section 1							100						
3" X 1/4" Gypsum									13,200							
															1 44	
						1000	- March	1000								
Total Tons									13,200						1	
Total CY using 1.5 ton/LCY conversion factor									8,800							
623G EROPS (Equipment Watch 2013)	21699	\$ 139.55	0.1	\$ 62.15	\$ 351.27		\$ 702.55	¢/UD	8,800	LOV	104	LCY/HR		lup.		
14H Grader EROPS (Equipment Watch 2013)	8403		0.1				\$ 179.90		0,000	LCT	401	LCT/HR		HR	\$	7,709
5,000 Gal H2O Truck, Diesel (Equipment Watch 2013)			0.1				\$ 132.29							HR	\$	1,974
Foreman Average, Outside	4073	\$ 45.00	0.1	Φ 49.15	\$ 66.35									HR	\$	1,452
Pickup Truck Crew 4X4 3/4Ton (Equipment Watch 2013)	767.79	\$ 10.55	0.1	\$ -	\$ 16.40		\$ 66.35 \$ 16.40							HR	\$	728
Frontap Frank Order 4744 OFFICE (Equipment Viatori 2010)	707.79	9 10.55	0.1	Φ -	\$ 16.40		\$ 16.40	\$/HK					11	HR	\$	180
	Total States														-	
		73.052														
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	Equipment Cost	Hourly Operating Costs	Equipment Overhead	H	erator's lourly ge Rate		lourly Cost	Number of Men or Eq.	Eq	Total . & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
REPLACE 6" TOPSOIL OVER QUARRY FLOOR																		
623G EROPS (Equipment Watch 2013)	21699	\$ 139.55	0.1	\$	62.15	\$	351.27	2	\$	702.55	\$/HR	10,487	LCY	401	LCY/HR	26	HR	9,18
14H Grader EROPS (Equipment Watch 2013)	8403	\$ 59.30	0.1	\$	62.15		179.90			179.90		,		101	LOTATIO		HR	2,35
5,000 Gal H2O Truck Diesel (Equipment Watch 2013)	4679	\$ 49.00	0.1		49.15		132.29			132.29							HR	1,73
Foreman Average, Outside	46 - 97 (1)		THE RESERVE			\$	66.35		\$	66.35							HR	86
Pickup Truck Crew 4X4 3/4 ton (Equipment Watch 2013)	768	\$ 10.55	0.1	\$	-	\$	16.41		\$	16.41							HR	21
SCARIFYING																		
14H Grader EROPS (Equipment Watch 2013)	8403	\$ 59.30	0.1	\$	62.15	\$	179.90	1	\$	179.90	\$/HR	13	ACRES	3.1	ACRE/HR	5	HR	81
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	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & La Costs	ab.	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
REPLACE 6" TOPSOIL OVER BENCH AREAS																
623G EROPS (Equipment Watch 2013)	21699	\$ 139.55	0.1	\$ 62.15	\$ 351.27	2	\$ 702.	55 \$/H	HR	4,033	LCY	188	LCY/HR	21	HR	7,536
14H Grader EROPS (Equipment Watch 2013)	8403	\$ 59.30	0.1	\$ 62.15	\$ 179.90	1	\$ 179.	90 \$/H	'HR						HR	1,930
5,000 Gal H2O Truck Diesel (Equipment Watch 2013)	4679	\$ 49.00	0.1	\$ 49.15	\$ 132.29	1		29 \$/							HR	1,419
Foreman Average, Outside					\$ 66.35	1	\$ 66.	35 \$/	HR	11					HR	712
Pickup Truck Crew 4X4 3/4 ton (Equipment Watch 2013)	768	\$ 10.55	0.1	\$ -	\$ 16.41	1	\$ 16.	41 \$/⊦	HR						HR	176
SCARIFYING																
14H Grader EROPS (Equipment Watch 20013)	8403	\$ 59.30	0.1	\$ 62.15	\$ 179.90	1	\$ 179.	90 \$/⊦	HR	8	ACRES	3.1	ACRE/HR	3	HR	464
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MINISTER PROPERTY OF STREET STREET, STREET STREET, STR		NAME OF TAXABLE PARTY.	THE RESIDENCE	Allen Grandelle	and the same	SESSENCE SERVICE	the breaking	30 85	unitations.	ALP DE LEGIS DE LA CONTRACTION DEL CONTRACTION DE LA CONTRACTION D	Shinksina.	THE OWNER WHEN THE PARTY OF THE	OK SHIPS IN SE	HE LAND OF STREET	ALCOHOLD BURNERS	12,236

Revegetation Costs

Ref.	Description REVEGETATION COST - Floor, Ro	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
	Seeding Costs		Min STD Veg	\$1,000	10		-		_			-	_	-	-		-			
-	Seeding Costs	Standard Vegetation Costs	MIN STD Veg	\$1,000	Acre		-	-		21										\$ 21,0
	Reseeding - assume 25%	Standard Vegetation Costs	Min STD Veg	\$1,000	/Acre			_		5			-							\$ 5,2
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73 3	A LIBERT OF THE PARTY OF	MARCHE MA LESS COMMENTS OF THE STREET													1					
700	Charles and the second second second																			
	Subtotal		Section Contraction	AT THE STREET, SA	Section 100	ACCUSED NO.		-	S COLUMN TO S	all a life and	palation and	SAME BER	E SECTION STATES	Table of the Park		Planty, S	WINDS NOW	Billion Stores		E 82200000000000000000000000000000000000
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100	The second secon																			
1050	Total			di serrenyani	STATE OF THE	Ball Bally	O CONTRACTOR	SE SECULO DE	an guintent	Abdress to Colle	STATE OF THE PARTY	Section State By	deposit maketa		No. of Concession, Name of Street, or other Designation, Name of Street, or other Designation, Name of Street,	Office Shi	1000000000	DESIGNATION OF		\$ 26,2

Project: Leva a Henry Quarry

Date: 10 - 7 - 13

ared by: 2 Summers

WORKSHEET 11A PRODUCTIVITY OF PUSH-PULL OR SELF-LOADING SCRAPER USE

Earthmoving Activity: Redistribution of Topsoil on Benches.
Characterization of Scraper Used (type, capacity, etc.): Lat 623 6 Description of Scraper Use (origin, destination, grade, haul distance, capacity, etc.): Drigin - Topsoil Stackpiles Pist - Anamy Benches Duy Grade 10% Productivity Calculations: Aug. Haul Dist. = 2,000
cycle = 90 min + 2,6 min + .70 min + .70 min = 4.9 min found fine (push-pull is per pair)
Hourly Production = $\frac{26.5}{\text{capacity}}$ LCY x 60 min/hr ÷ $\frac{4.9}{\text{cycle time}}$ min x $\frac{75}{\text{efficiency}}$ = $\frac{188}{\text{(push-pull is factor)}}$ LCY/hr
Hours Required = LCY ÷ LCY/hr = hr volume to be handled production

1:1 Benched Area - 8.4cves 25 Benches #00 63% of slopes are topsoiled (just banches) Bench Avea tobse topsibled = 8-Acres X. 63=5-Acres 5- Acres X 47,560 SF/AC X,5 deep topsoil /27 CF/cy = 4,033 Cat Performance Handbook #39 Attached Dist. Map. 04/05/00

The average of the <u>struck</u> and <u>heaped</u> capacities; use total for two scrapers for push-pull

Project: Levan Henry Clary
Date: 10-7-13
Prepared by: B. Sanson

WORKSHEET 11A PRODUCTIVITY OF PUSH-PULL OR SELF-LOADING SCRAPER USE

Earthmoving Activity:

Characterization of Scraper Used (type, capacity, etc.):
Cat 6236 Sel Cloading Scraper Description of Scraper Use (origin, destination, grade, haul distance, capacity, etc.):
Description of Scraper Use (origin, destination, grade, haul distance, capacity, etc.):
Drigin - Topsoil Stockpiles Distribution on anany Floor & Roads - 13 Acres Productivity Calculations: Scraper Cap = Z3ay heaped Aug. Han Dist = 8001
Productivity Calculations: Scraper Cap = Z3 ay heaped Aug. Han / Dist = 8001
Cycle = .90 min + .4 min + .76 min + .3 min = Z.3 min Time load time (push-pull is per pair) Cycle = .90 min + .4 min + .76 min + .3 min = Z.3 min (push-pull is per pair)
Hourly Production = 20.5 LCY x 60 min/hr ÷ 2.3 min x .75 = 40/ LCY/hr capacity* cycle time efficiency factor per pair)
Hours Required = LCY ÷ LCY/hr = hr volume to be handled production hr

Data Source(s):

Cat Performance Handbook #39

Updated Disturbance Area Drawity - Attached

* 13 Acres X 43,560 SF/Acre X.5 deep / 2700/ky = 10,487 CY

^{*} The average of the struck and heaped capacities; use total for two scrapers for push-pull.

Project: Levan Henry Occupy
Date: 10-7-13
Prepared by: B. Siensish

. WORKSHEET 12 PRODUCTIVITY AND HOURS REQUIRED FOR MOTORGRADER USE

Earthmoving Activity: Knocking Down for Scrapers Characterization of Grader Used (type, size capacity, etc.):
Characterization of Grader Used (type, size capacity, etc.):
CAT 14 H Grader Black Length Af Description of Grader Route (push distance, grade, effective blade width, operating speed, etc.):
Description of Grader Route (push distance, grade, effective blade width, operating speed, etc.):
Productivity Calculations:
Grading 30°
Hourly Production = 3.50 mi/hr x 12./2 ft x 5,280 ft/mi x 1 ac/43,560 ft ² effective blade width
Hours Required = ac ÷ ac/hr = hr area to be graded hourly production
<u>Scarification</u>
Hourly Production = mi/hr X ft x 5,280 ft/mi x 1 ac/43,560 ft² average speed scarifier width
X =ac/hr efficiency factor
Hours Required =ac ÷ac/hr =hr area to be scarified hourly production
<u>Total Hours Required</u>
Total Hours = + = hr grading hours required scarification hours required
Data Source(s):

A-16

Project: Levan Henry Charry
Prepared by: B. Sumsion

. WORKSHEET 12 PRODUCTIVITY AND HOURS REQUIRED FOR MOTORGRADER USE

Earthmoving Activity:
Characterization of Grader Used (type size canacity etc.)
Scar: fying Floon Grushe-Pad Road & Stack file Area Characterization of Grader Used (type, size capacity, etc.): Cat 14H-14 Wide Blade R. Afe-Beam Width 8-6"Wide Description of Grader Route (push distance, grade, effective blade width, operating speed, etc.):
Productivity Calculations: <u>Grading</u>
Hourly Production = mi/hr x ft x 5,280 ft/mi x 1 ac/43,560 ft ² average speed effective blade width
X = ac/hr efficiency factor
Hours Required =ac ÷ac/hr =hr area to be graded hourly production
<u>Scarification</u>
Hourly Production = 4 mi/hr x 5.5 ft x 5,280 ft/mi x 1 ac/43,560 ft ² scarifier width
$x \frac{175}{\text{efficiency factor}} = \frac{3.1}{\text{ac/hr}} \frac{13 \text{ Acres}}{3.1} = 4.2 \text{ Use } 45^{-} HPS$
Hours Required = ac ÷ ac/hr = hr area to be scarified hourly production
<u>Total Hours Required</u>
Total Hours = + = hr grading hours required scarification hours required hr
Data Source(s):







